**Supplemental Table 1**: Geometric mean (95%CI) of plasma trans-fatty acid concentrations (mol/L) in fasting adults 20 y and older, NHANES 1999–2000 and 2009–20101

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Palmitelaidic acid(95%CI)*n*** | **trans, Vaccenic acid(95%CI)*n*** | **Elaidic acid(95%CI)*n*** | **Linoelaidic acid(95%CI)*n*** | **SumTFA(95%CI)*n*** |
|  | **1999–2000** | **2009–2010** | **1999–2000** | **2009–2010** | **1999–2000** | **2009–2010** | **1999–2000** | **2009–2010** | **1999–2000** | **2009–2010** |
| All | 6.79 (6.39, 7.22) 1678 | 3.85 (3.76, 3.94) 2574 | 37.7 (35.4, 40.2) 1675 | 17.9 (17.3, 18.5) 2575 | 33.1 (30.5, 35.9) 1646 | 13.4 (12.8, 14.0) 2578 | 2.80 (2.58, 3.04) 1650 | 1.58 (1.52, 1.65) 2467 | 80.9 (75.7, 86.5) 1613 | 37.4 (36.1, 38.8) 2462 |
| Sex |  |  |  |  |  |  |  |  |  |  |
| Male | 6.65 (6.13, 7.21) 796 | 3.76 (3.63, 3.89) 1196 | 37.7 (34.7, 41.0) 793 | 18.0 (17.2, 18.8) 1198 | 31.9 (28.9, 35.3) 787 | 12.9 (12.3, 13.5) 1199 | 2.71 (2.45, 3.00) 781 | 1.55 (1.49, 1.61) 1146 | 79.1 (72.6, 86.3) 768 | 36.8 (35.2, 38.5) 1144 |
| Female | 6.93 (6.52, 7.37) 882 | 3.92 (3.80, 4.04) 1378 | 37.6 (35.1, 40.3) 882 | 17.8 (17.0, 18.6) 1377 | 34.2 (31.5, 37.1) 859 | 13.8 (13.1, 14.6) 1379 | 2.87 (2.65, 3.12) 869 | 1.60 (1.51, 1.70) 1321 | 82.4 (76.7, 88.6) 845 | 37.8 (36.2, 39.5) 1318 |
| Age group, y |  |  |  |  |  |  |  |  |  |
| 20–29 | 6.55 (6.12, 7.02) 284 | 3.46 (3.34, 3.58) 428 | 35.7 (33.6, 38.0) 282 | 16.4 (15.4, 17.4) 428 | 30.6 (28.6, 32.7) 274 | 11.5 (10.8, 12.2) 428 | 2.55 (2.33, 2.79) 280 | 1.43 (1.35, 1.51) 409 | 76.4 (71.8, 81.3) 268 | 33.2 (31.4, 35.2) 407 |
| 30–39 | 6.35 (5.70, 7.07) 295 | 3.82 (3.64, 4.02) 415 | 37.7 (33.9, 42.0) 296 | 17.8 (16.7, 18.9) 414 | 31.1 (27.4, 35.3) 291 | 12.8 (12.0, 13.6) 415 | 2.62 (2.36, 2.92) 291 | 1.52 (1.44, 1.59) 397 | 78.1 (69.8, 87.3) 285 | 36.2 (33.9, 38.6) 396 |
| 40–49 | 6.65 (5.76, 7.67) 262 | 3.81 (3.60, 4.03) 474 | 38.3 (32.8, 44.7) 261 | 18.3 (16.9, 19.8) 474 | 32.7 (27.0, 39.5) 256 | 13.3 (12.3, 14.4) 475 | 2.72 (2.34, 3.15) 258 | 1.61 (1.52, 1.71) 449 | 79.6 (68.7, 92.3) 252 | 38.3 (35.3, 41.5) 448 |
| 50–59 | 7.10 (6.45, 7.82) 228 | 3.86 (3.57, 4.16) 415 | 39.6 (35.6, 44.0) 227 | 17.9 (16.4, 19.6) 414 | 37.3 (33.1, 41.9) 223 | 13.9 (12.8, 15.1) 415 | 3.28 (2.91, 3.68) 223 | 1.66 (1.54, 1.80) 402 | 88.7 (79.4, 99.1) 217 | 38.2 (35.3, 41.4) 401 |
| 60–69 | 7.03 (6.52, 7.59) 303 | 4.05 (3.83, 4.29) 396 | 36.3 (33.9, 38.8) 303 | 18.3 (17.0, 19.6) 399 | 33.4 (30.4, 36.8) 299 | 14.0 (12.8, 15.3) 399 | 2.95 (2.63, 3.31) 295 | 1.63 (1.50, 1.78) 380 | 80.4 (73.8, 87.5) 289 | 38.6 (35.8, 41.6) 380 |
| ≥70 | 7.40 (6.95, 7.87) 306 | 4.37 (4.16, 4.59) 446 | 38.2 (36.1, 40.3) 306 | 19.3 (18.3, 20.5) 446 | 34.3 (32.0, 36.9) 303 | 16.2 (15.3, 17.0) 446 | 2.73 (2.54, 2.94) 303 | 1.67 (1.56, 1.79) 430 | 82.9 (78.3, 87.7) 302 | 42.3 (40.2, 44.4) 430 |
| Race/Ethnicity |  |  |  |  |  |  |  |  |  |
| NHW | 7.33 (6.88, 7.82) 789 | 4.01 (3.91, 4.10) 1219 | 40.0 (36.8, 43.4) 788 | 18.7 (17.9, 19.5) 1222 | 35.0 (31.7, 38.7) 785 | 13.7 (13.1, 14.4) 1224 | 3.00 (2.69, 3.33) 767 | 1.63 (1.55, 1.72) 1168 | 85.7 (78.8, 93.2) 762 | 38.8 (37.1, 40.6) 1165 |
| NHB | 5.32 (4.77, 5.95) 271 | 3.24 (3.01, 3.48) 427 | 32.9 (30.1, 36.0) 271 | 15.7 (14.7, 16.7) 427 | 28.4 (26.9, 30.0) 262 | 12.1 (11.1, 13.2) 427 | 2.20 (2.10, 2.31) 266 | 1.42 (1.33, 1.51) 405 | 69.5 (65.5, 73.7) 257 | 33.3 (31.6, 35.1) 405 |
| MA | 6.75 (6.31, 7.23) 464 | 4.13 (3.83, 4.45) 498 | 37.6 (34.2, 41.2) 463 | 20.2 (18.6, 21.9) 498 | 33.3 (30.3, 36.6) 464 | 16 (14.5, 17.6) 498 | 2.73 (2.50, 3.00) 462 | 1.71 (1.59, 1.85) 489 | 81.1 (74.0, 88.8) 462 | 42.7 (39.3, 46.4) 489 |

1 Values are weighted geometric means (95% CI) standardized to the 2010 census; *n* is also provided for each cell. MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White. Fasting: no meals in the past 8 or more hours.

**Supplemental Table 2.** Percentile distribution of the sum of 4 plasma trans-fatty acids (mol/L) in fasted adults 20 y and older, NHANES 1999–2000 and 2009–20101.

|  |  |  |
| --- | --- | --- |
|  | **1999–2000** | **2009–2010** |
| Category | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** |
| All | 1613 | 38.2 (33.3, 43.1) | 45.5 (41.6, 48.8) | 60.3 (55.8, 64.0) | 79.8 (74.1, 86.8) | 106 (97.4, 117) | 140 (130, 155) | 176 (153, 200) | 2462 | 17.6 (16.8, 19.1) | 21.1 (20.2, 22.0) | 27.2 (26.3, 28.6) | 36.7 (35.1, 38.4) | 49.8 (47.8, 51.7) | 67.9 (63.3, 73.2) | 84.0 (76.5, 91.4) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | 768 | 34.4 (29.2, 43.1) | 44.2 (40.1, 47.7) | 55.5 (53.2, 60.7) | 77.0 (68.8, 85.6) | 109 (95.5, 120) | 145 (129, 173) | 190 (155, 233) | 1144 | 17.0 (15.8, 18.1) | 19.6 (18.4, 20.6) | 26.6 (25.2, 28.2) | 35.8 (34.4, 37.8) | 49.7 (47.4, 51.7) | 67.7 (61.8, 74.8) | 84.3 (75.3, 98.9) |
| Female | 845 | 40.2 (34.0, 45.9) | 47.4 (41.4, 54.1) | 63.7 (57.2, 69.3) | 81.8 (75.6, 89.7) | 105 (97.4, 115) | 136 (126, 148) | 165 (146, 191) | 1318 | 19.8 (17.5, 21.0) | 22.1 (21.1, 23.2) | 27.9 (26.7, 29.4) | 37.4 (35.5, 39.4) | 50.2 (47.0, 53.8) | 67.9 (63.8, 74.2) | 83.5 (75.6, 91.9) |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20–29 | 268 | 41.4 (34.0, 44.6) | 45.8 (41.4, 48.8) | 56.7 (53.2, 63.4) | 76.7 (71.7, 84.3) | 98.1 (91.2, 107) | 131 (111, 140) | 149 (131, 157) | 407 | 16.9 (15.3, 19.3) | 20.2 (17.5, 21.2) | 24.8 (23.8, 26.2) | 31.5 (29.5, 34.4) | 43.6 (39.5, 47.8) | 60.6 (50.8, 69.6) | 75.0 (63.3, 84.3) |
| 30–39 | 285 | 35.3 (28.6, 41.3) | 43.3 (35.4, 52.3) | 60.3 (52.0, 66.5) | 77.9 (67.2, 90.0) | 104 (90.6, 118) | 136 (120, 165) | 186 (128, 233) | 396 | 17.3 (15.3, 20.0) | 21.5 (19.3, 22.7) | 27.6 (24.6, 30.3) | 36.3 (33.5, 40.0) | 47.3 (43.7, 49.0) | 61.3 (52.0, 72.5) | 75.0 (61.3, 82.0) |
| 40–49 | 252 | 34.0 (19.8, 47.3) | 47.3 (36.7, 50.2) | 54.9 (49.9, 68.3) | 78.0 (69.3, 88.1) | 103 (88.9, 119) | 137 (109, 203) | 191 (124, 298) | 448 | 18.4 (16.2, 21.4) | 22.0 (19.9, 23.0) | 28.7 (26.3, 31.2) | 36.9 (35.0, 40.0) | 50.4 (45.8, 56.9) | 69.2 (58.8, 82.1) | 88.0 (65.4, 119) |
| 50–59 | 217 | 39.7 (28.8, 47.6) | 45.0 (36.3, 53.5) | 65.7 (54.5, 77.1) | 89.7 (81.1, 97.4) | 120 (107, 132) | 161 (129, 202) | 200 (143, 317) | 401 | 17.0 (15.1, 19.9) | 20.3 (18.3, 22.0) | 26.9 (24.5, 31.0) | 37.9 (35.0, 41.2) | 53.8 (47.8, 60.9) | 68.2 (63.8, 75.6) | 88.3 (71.1, 100) |
| 60–69 | 289 | 38.5 (32.5, 44.3) | 44.3 (40.2, 48.3) | 60.3 (53.8, 66.2) | 76.7 (70.0, 88.5) | 106 (95.5, 119) | 156 (126, 179) | 183 (147, 231) | 380 | 18.1 (14.5, 22.0) | 21.6 (18.6, 24.9) | 27.7 (26.1, 29.2) | 37.6 (33.2, 42.6) | 53.9 (46.0, 58.1) | 71.9 (59.6, 89.5) | 100 (72.4, 117) |
| ≥70 | 302 | 41.6 (39.5, 47.4) | 50.9 (43.5, 57.5) | 64.2 (58.7, 71.9) | 82.6 (76.0, 90.9) | 109 (96.8, 124) | 146 (127, 157) | 166 (146, 191) | 430 | 20.2 (18.0, 22.1) | 23.9 (21.8, 26.0) | 31.7 (29.1, 33.9) | 42.2 (40.0, 44.3) | 57.8 (53.3, 62.8) | 77.4 (69.9, 87.0) | 93.0 (83.1, 106) |
| Race/Ethnicity |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NHW | 762 | 41.6 (34.0, 48.3) | 50.1 (44.9, 54.9) | 64.8 (57.5, 71.7) | 84.5 (76.7, 93.3) | 112 (100, 122) | 146 (131, 165) | 185 (156, 209) | 1165 | 18.9 (17.0, 20.6) | 22.1 (20.6, 23.2) | 28.9 (27.3, 30.3) | 38.2 (36.4, 40.3) | 51.8 (49.8, 55.6) | 69.6 (64.6, 75.6) | 88.1 (80.1, 98.9) |
| NHB | 257 | 33.9 (31.0, 39.5) | 39.5 (33.9, 44.8) | 51.4 (46.5, 56.3) | 70.6 (66.2, 75.7) | 90.9 (83.4, 101) | 122 (107, 138) | 149 (127, 160) | 405 | 16.7 (13.9, 18.5) | 20.0 (17.2, 21.6) | 24.9 (22.3, 27.1) | 33.0 (31.4, 35.0) | 43.2 (40.1, 46.4) | 56.6 (48.6, 63.3) | 66.2 (57.4, 75.4) |
| MA | 462 | 35.5 (28.5, 42.5) | 43.2 (34.0, 51.2) | 55.6 (48.1, 62.2) | 76.4 (67.8, 84.1) | 101 (91.2, 112) | 147 (111, 189) | 188 (155, 220) | 489 | 20.5 (17.7, 23.9) | 23.7 (20.7, 27.1) | 30.6 (27.1, 33.8) | 40.8 (35.9, 44.9) | 55.2 (48.5, 60.9) | 74.6 (69.0, 80.5) | 91.9 (78.2, 104) |

1 Values are weighted concentrations (95% CI) at selected percentiles; same *n* as in Table 2. MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White. Trans fatty acids: palmitelaidic acid, trans-vaccenic acid, elaidic acid, linoelaidic acid. Fasting: no meals in the past 8 or more hours.

**Supplemental Table 3.** Proportion of individual trans-fatty acids in percent relative to the sum of 4 trans-fatty acids in fasted adults 20 y and older, NHANES 1999–2000 and 2009–20101.

|  |  |  |
| --- | --- | --- |
|  | **1999–2000** | **2009–2010** |
|  | **Palmitelaidic acid** | **trans-Vaccenic acid** | **Elaidic acid** | **Linoelaidic acid** | **Palmitelaidic acid** | **trans-Vaccenic acid** | **Elaidic acid** | **Linoelaidic acid** |
| All | 8.4 (8.2, 8.7) 1613 | 46.7 (46.2, 47.2) 1613 | 40.5 (39.9, 41.2) 1613 | 3.4 (3.4, 3.5) 1613 | 10.3 (10.1, 10.5) 2462 | 48.0 (47.7, 48.4) 2462 | 36.0 (35.5, 36.5) 2462 | 4.2 (4.1, 4.4) 2462 |
| Sex |  |  |  |  |  |  |  |  |
| Male | 8.3 (8.0, 8.6) 768 | 47.6 (46.9, 48.3) 768 | 39.8 (39.1, 40.5) 768 | 3.4 (3.3, 3.5) 768 | 10.2 (10.0, 10.5) 1144 | 49.1 (48.7, 49.5) 1144 | 35.1 (34.6, 35.7) 1144 | 4.2 (4.1, 4.4) 1144 |
| Female | 8.6 (8.2, 8.9) 845 | 45.8 (45.3, 46.3) 845 | 41.2 (40.6, 41.9) 845 | 3.5 (3.4, 3.6) 845 | 10.4 (10.2, 10.6) 1318 | 47.1 (46.6, 47.5) 1318 | 36.8 (36.3, 37.4) 1318 | 4.2 (4.1, 4.4) 1318 |
| Age group, y |  |  |  |  |  |  |  |
| 20–29 | 8.7 (8.4, 9.1) 268 | 47.0 (46.4, 47.6) 268 | 40.0 (39.2, 40.8) 268 | 3.4 (3.2, 3.6) 268 | 10.4 (10.0, 10.9) 407 | 49.5 (48.7, 50.3) 407 | 34.5 (33.6, 35.3) 407 | 4.3 (4.1, 4.5) 407 |
| 30–39 | 8.2 (7.7, 8.8) 285 | 48.1 (47.4, 48.9) 285 | 39.5 (38.6, 40.4) 285 | 3.3 (3.2, 3.5) 285 | 10.5 (10.2, 10.8) 396 | 48.7 (47.9, 49.6) 396 | 35.3 (34.5, 36.0) 396 | 4.2 (4.0, 4.4) 396 |
| 40–49 | 8.2 (7.7, 8.8) 252 | 47.4 (46.2, 48.6) 252 | 40.1 (38.9, 41.3) 252 | 3.4 (3.2, 3.6) 252 | 10.1 (9.80, 10.4) 448 | 48.7 (47.8, 49.6) 448 | 35.6 (34.7, 36.5) 448 | 4.2 (3.9, 4.5) 448 |
| 50–59 | 8.1 (7.8, 8.4) 217 | 45.0 (43.9, 46.1) 217 | 42.2 (41.1, 43.3) 217 | 3.7 (3.5, 3.9) 217 | 10.2 (9.90, 10.5) 401 | 47.1 (46.1, 48.1) 401 | 36.9 (36.0, 37.7) 401 | 4.4 (4.2, 4.6) 401 |
| 60–69 | 8.8 (8.4, 9.3) 289 | 45.1 (44.4, 45.9) 289 | 41.3 (40.5, 42.2) 289 | 3.7 (3.5, 3.9) 289 | 10.5 (10.1, 10.8) 380 | 47.4 (46.7, 48.2) 380 | 36.3 (35.3, 37.3) 380 | 4.2 (4.0, 4.5) 380 |
| ≥70 | 8.8 (8.3, 9.3) 302 | 45.6 (44.9, 46.2) 302 | 41.6 (40.8, 42.4) 302 | 3.3 (3.2, 3.5) 302 | 10.3 (10.1, 10.6) 430 | 45.8 (45.0, 46.6) 430 | 38.7 (37.6, 39.8) 430 | 4.0 (3.7, 4.2) 430 |
| Race/Ethnicity |  |  |  |  |  |  |  |
| NHW | 8.5 (8.2, 8.8) 762 | 46.6 (46.0, 47.2) 762 | 40.6 (39.9, 41.3) 762 | 3.5 (3.4, 3.6) 762 | 10.4 (10.1, 10.6) 1165 | 48.2 (47.7, 48.7) 1165 | 35.8 (35.2, 36.5) 1165 | 4.2 (4.0, 4.4) 1165 |
| NHB | 7.7 (7.2, 8.4) 257 | 47.6 (46.1, 49.0) 257 | 40.5 (39.2, 41.9) 257 | 3.2 (3.0, 3.3) 257 | 9.9 (9.7, 10.2) 405 | 47.9 (46.7, 49.2) 405 | 36.4 (35.3, 37.6) 405 | 4.3 (4.1, 4.5) 405 |
| MA | 8.4 (8.0, 8.7) 462 | 46.6 (45.8, 47.4) 462 | 40.9 (40.2, 41.5) 462 | 3.4 (3.2, 3.6) 462 | 9.7 (9.4, 10.0) 489 | 47.9 (47.3, 48.4) 489 | 37.3 (36.5, 38.1) 489 | 4.0 (3.9, 4.2) 489 |

1 Values are proportion in percent (95%CI) and n. MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White. Trans fatty acids: palmitelaidic acid, trans-vaccenic acid, elaidic acid, linoelaidic acid. Fasting: no meals in the past 8 or more hours.

**Supplemental Table 4.** Correlation of plasma trans-fatty acid concentrations (mol/L) in fasting adults 20 y and older, by NHANES survey1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | trans-Vaccenic acid | Elaidic acid | Linoelaidic acid | SumTFA |
|  | 1999-2000 | 2009-2010 | 1999-2000 | 2009-2010 | 1999-2000 | 2009-2010 | 1999-2000 | 2009-2010 |
| Palmitelaidic acid | 0.81 (1671) | 0.80 (2571) | 0.81 (1643) | 0.76 (2573) | 0.67(1648) | 0.65(2465) | 0.84(1613) | 0.84(2462) |
| trans-Vaccenic acid |  |  | 0.92 (1641) | 0.87 (2575) | 0.73(1646) | 0.68(2463) | 0.98(1613) | 0.97(2462) |
| Elaidic acid |  |  |  |  | 0.82(1618) | 0.77(2466) | 0.98(1613) | 0.96(2462) |
| Linoelaidic acid |  |  |  |  |  |  | 0.80(1613) | 0.76(2462) |

1 Values are weighted Pearson correlation coefficients of the trans-fatty acid concentrations, followed by number of subjects (*n)* with results for both trans-fatty acids indicated by the row and column headings.

**Supplemental Table 5.** Characteristics of fasting adults 20 y and older for tertiles of the sum of 4 trans-fatty acids for NHANES 1999–2000 and 2009–20101

|  |  |  |
| --- | --- | --- |
|  | **NHANES 1999-2000** | **NHANES 2009-2010** |
| **Parameter** | Tertile 1 | Tertile 2 | Tertile 3 | Tertile 1 | Tertile 2 | Tertile 3 |
| Number of participants, n(range), µmol/L | 532(11.0 - 65.5) | 533(65.6 - 95.0) | 548(95.1 - 596) | 812(7.33 - 30.9) | 813(31.0 - 45.3) | 837(45.4 - 307) |
| Body mass index, median (interquartile range), kg/m2 | 25.3 (22.6 - 28.9) | 26.2 (23.4 - 30.3) | 28.5 (24.6 - 33.3) | 25.7 (22.4 - 29.8) | 28.5 (24.4 - 33.0) | 29.4 (26.0 - 33.9) |
| Cholesterol, median (interquartile range), mg/dL | 189 (162 - 214) | 199 (177 - 226) | 214 (188 - 238) | 178 (155 - 202) | 194 (171 - 222) | 203 (180 - 237) |
| Low-density lipoprotein cholesterol, median (interquartile range), mg/dL | 116 (93 - 137) | 123 (103 - 148) | 130 (108 - 155) | 101 (81 - 124) | 118 (95 - 139) | 122 (98 - 148) |
| High-density lipoprotein cholesterol, median (interquartile range), mg/dL | 51 (43 - 62) | 48 (41 - 59) | 43 (34 - 52) | 57 (46 - 68) | 52 (43 - 64) | 46 (39 - 56) |
| Triglycerides, median (interquartile range), mg/dL | 85 (64 - 120) | 113 (85 - 148) | 173 (126 - 233) | 77 (60 - 100) | 106 (81 - 137) | 153 (111 - 213) |
| HbA1c, median (interquartile range), %  | 5.1 (4.9 - 5.4) | 5.1 (4.9 - 5.4) | 5.3 (5.0 - 5.6) | 5.4 (5.2 - 5.7) | 5.4 (5.2 - 5.7) | 5.6 (5.3 - 5.9) |
| Total kilo calories, median (interquartile range) | 2086 (1528 - 2686) | 2027 (1485 - 2645) | 2228 (1578 - 2957) | 1972 (1493 - 2610) | 1943 (1515 - 2634) | 2023 (1484 - 2733) |
| Healthy Eating Index, median (interquartile range) | 49.2 (37.8 - 59.4) | 46.4 (35.9 - 55.6) | 40.8 (32.3 - 50.7) | 51.9 (41.4 - 63.9) | 45.9 (36.9 - 57.6) | 44.6 (36.1 - 54.6) |

1 Values are weighted means (95% CI). Fasting: no meals in the past 8 or more hours. Trans-fatty acids: palmitelaidic acid, trans-vaccenic acid, elaidic acid, and linoelaidic acid.

**Supplemental Table 6.** Percentile distribution of palmitelaidic acid (mol/L) in fasted adults 20 y and older, NHANES 1999–2000 and 2009–20101.

|  |  |  |
| --- | --- | --- |
|  | **1999–2000** | **2009–2010** |
| Category | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** |
| All | 1678 | 3.14 (2.78, 3.49) | 3.78 (3.44, 4.16) | 5.00 (4.67, 5.38) | 6.73 (6.32, 7.20) | 9.05 (8.48, 9.64) | 12.0 (11.2, 12.7) | 14.1 (12.8, 15.4) | 2574 | 1.97 (1.85, 2.08) | 2.22 (2.16, 2.30) | 2.89 (2.81, 2.96) | 3.83 (3.76, 3.89) | 5.12 (4.91, 5.36) | 6.68 (6.44, 6.95) | 7.70 (7.32, 8.04) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | 796 | 2.90 (2.54, 3.26) | 3.63 (3.12, 3.97) | 4.77 (4.45, 5.14) | 6.39 (5.95, 7.21) | 8.97 (7.99, 10.1) | 12.5 (10.9, 13.7) | 14.8 (12.7, 17.8) | 1196 | 1.90 (1.74, 2.01) | 2.14 (2.10, 2.21) | 2.78 (2.62, 2.93) | 3.75 (3.64, 3.91) | 5.01 (4.77, 5.25) | 6.43 (6.02, 6.82) | 7.68 (7.02, 8.27) |
| Female | 882 | 3.44 (2.94, 3.75) | 3.93 (3.47, 4.55) | 5.23 (4.80, 5.61) | 6.91 (6.45, 7.41) | 9.20 (8.56, 9.77) | 11.6 (11.1, 12.4) | 13.6 (12.5, 14.3) | 1378 | 2.03 (1.83, 2.21) | 2.33 (2.21, 2.50) | 2.97 (2.87, 3.07) | 3.87 (3.78, 3.99) | 5.25 (4.92, 5.57) | 6.82 (6.56, 7.14) | 7.71 (7.32, 8.40) |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20–29 | 284 | 3.23 (2.64, 3.97) | 3.97 (3.21, 4.45) | 4.97 (4.47, 5.37) | 6.44 (5.95, 7.36) | 8.93 (7.84, 9.39) | 11.6 (10.1, 13.0) | 13.6 (11.6, 14.8) | 428 | 1.95 (1.78, 2.10) | 2.13 (2.03, 2.22) | 2.61 (2.46, 2.78) | 3.39 (3.24, 3.60) | 4.36 (4.10, 4.72) | 5.76 (5.12, 6.64) | 6.88 (5.97, 7.87) |
| 30–39 | 295 | 2.94 (2.54, 3.49) | 3.59 (2.94, 3.95) | 4.79 (3.95, 5.36) | 6.49 (5.36, 7.18) | 8.36 (7.12, 10.0) | 12.2 (10.2, 13.0) | 13.9 (12.6, 15.4) | 415 | 1.91 (1.59, 2.21) | 2.28 (2.12, 2.45) | 2.93 (2.69, 3.10) | 3.76 (3.65, 3.91) | 5.14 (4.66, 5.57) | 6.56 (5.88, 6.98) | 7.38 (6.62, 8.32) |
| 40–49 | 262 | 2.82 (2.47, 3.56) | 3.80 (3.43, 4.29) | 4.96 (4.64, 5.24) | 6.34 (5.53, 7.47) | 8.66 (7.24, 10.5) | 11.2 (9.28, 18.8) | 16.8 (10.2, 25.9) | 474 | 1.99 (1.76, 2.15) | 2.23 (2.12, 2.34) | 2.93 (2.70, 3.11) | 3.82 (3.56, 4.00) | 5.01 (4.44, 5.36) | 6.14 (5.53, 7.14) | 7.69 (6.20, 8.92) |
| 50–59 | 228 | 2.96 (2.26, 3.84) | 3.75 (2.99, 4.41) | 5.24 (4.19, 6.35) | 7.37 (6.37, 8.41) | 9.77 (8.99, 10.7) | 12.4 (11.3, 13.0) | 13.5 (12.3, 17.5) | 415 | 1.74 (1.58, 2.07) | 2.16 (1.95, 2.32) | 2.88 (2.62, 3.12) | 4.00 (3.66, 4.21) | 5.32 (4.48, 6.06) | 6.82 (6.20, 7.01) | 7.65 (6.91, 8.72) |
| 60–69 | 303 | 3.40 (2.76, 3.71) | 3.81 (3.45, 4.38) | 5.36 (4.40, 5.78) | 6.92 (6.28, 7.62) | 9.68 (8.44, 10.5) | 12.8 (11.2, 15.1) | 15.6 (12.7, 18.7) | 396 | 2.12 (1.73, 2.28) | 2.34 (2.08, 2.69) | 3.07 (2.82, 3.30) | 3.99 (3.71, 4.25) | 5.40 (4.91, 6.04) | 7.18 (6.43, 7.87) | 8.13 (7.27, 9.13) |
| ≥70 | 306 | 3.62 (3.05, 4.16) | 4.45 (3.65, 5.03) | 6.05 (5.19, 6.39) | 7.52 (6.87, 7.90) | 9.61 (9.06, 10.6) | 12.3 (10.9, 12.7) | 14.0 (12.6, 14.7) | 446 | 2.19 (1.92, 2.44) | 2.49 (2.28, 2.77) | 3.28 (3.08, 3.53) | 4.45 (4.16, 4.71) | 5.88 (5.40, 6.42) | 7.55 (7.02, 8.37) | 8.84 (7.79, 10.3) |
| Race/Ethnicity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NHW | 789 | 3.69 (3.44, 3.95) | 4.37 (3.84, 4.71) | 5.54 (5.14, 5.94) | 7.24 (6.79, 7.61) | 9.57 (8.87, 10.4) | 12.5 (11.5, 13.5) | 14.7 (13.1, 16.8) | 1219 | 2.10 (1.98, 2.17) | 2.33 (2.22, 2.53) | 3.09 (2.95, 3.20) | 4.01 (3.90, 4.11) | 5.33 (5.06, 5.55) | 6.90 (6.64, 7.18) | 7.99 (7.55, 8.72) |
| NHB | 271 | 2.67 (2.26, 3.06) | 3.06 (2.42, 3.40) | 3.75 (3.28, 4.50) | 5.47 (4.50, 6.27) | 7.28 (6.35, 7.85) | 9.19 (7.87, 10.9) | 11.2 (9.42, 13.2) | 427 | 1.58 (1.36, 1.88) | 1.89 (1.55, 2.22) | 2.50 (2.24, 2.74) | 3.25 (3.05, 3.52) | 4.23 (3.88, 4.67) | 5.25 (4.77, 6.03) | 6.04 (5.28, 6.86) |
| MA | 464 | 3.19 (2.69, 3.38) | 3.44 (3.22, 4.09) | 4.73 (4.39, 5.05) | 6.29 (5.67, 6.94) | 8.91 (7.95, 9.87) | 11.8 (10.3, 13.4) | 13.5 (12.1, 15.5) | 498 | 2.16 (1.79, 2.32) | 2.35 (2.21, 2.67) | 3.01 (2.70, 3.32) | 3.85 (3.54, 4.31) | 5.41 (4.78, 5.82) | 6.95 (6.34, 7.35) | 7.89 (7.12, 8.32) |

1 Values are weighted concentrations. Fasting: no meals in the past 8 or more hours.
(95% CI) at selected percentiles; same *n* as in Table 2. MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White.

**Supplemental Table 7.** Percentile distribution of trans-vaccenic acid (mol/L) in fasted adults 20 y and older, NHANES 1999–2000 and 2009–2010.

|  |  |  |
| --- | --- | --- |
|  | **1999–2000** | **2009–2010** |
| Category | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** |
| All | 1675 | 17.5 (15.8, 19.2) | 20.7 (19.2, 22.6) | 28.3 (26.6, 29.9) | 37.6 (35.1, 40.8) | 49.8 (45.7, 54.9) | 66.7 (61.1, 73.5) | 85.1 (73.0, 93.2) | 2575 | 7.90 (7.05, 8.59) | 9.59 (9.07, 10.1) | 13.0 (12.5, 13.6) | 17.8 (17.3, 18.4) | 24.6 (23.8, 25.4) | 32.8 (30.8, 35.3) | 41.3 (38.4, 43.7) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | 793 | 15.9 (13.3, 19.0) | 20.1 (17.5, 22.3) | 27.2 (24.6, 29.1) | 37.6 (33.9, 41.2) | 51.2 (45.4, 58.9) | 71.9 (64.1, 78.5) | 92.0 (77.8, 112) | 1198 | 7.66 (7.05, 8.30) | 9.24 (8.50, 9.95) | 12.7 (12.0, 13.8) | 17.8 (17.2, 18.7) | 25.0 (23.9, 26.3) | 34.5 (31.1, 37.5) | 43.4 (38.5, 48.4) |
| Female | 882 | 18.8 (17.1, 19.9) | 21.3 (19.7, 23.9) | 29.6 (27.3, 30.9) | 37.6 (34.7, 41.2) | 48.5 (45.3, 52.0) | 61.7 (57.0, 69.1) | 75.2 (63.8, 88.7) | 1377 | 8.34 (7.03, 9.04) | 10.1 (9.31, 10.8) | 13.2 (12.5, 13.7) | 17.7 (16.7, 18.5) | 24.3 (23.0, 25.6) | 31.7 (29.8, 34.2) | 39.8 (35.3, 42.9) |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20–29 | 282 | 18.7 (17.0, 21.7) | 21.7 (18.6, 24.5) | 28.1 (24.9, 30.5) | 35.7 (32.5, 38.7) | 45.6 (41.2, 52.5) | 58.8 (52.0, 65.0) | 68.8 (59.0, 75.2) | 428 | 7.48 (6.89, 8.39) | 8.91 (7.66, 10.6) | 12.1 (11.2, 13.0) | 16.0 (14.8, 17.3) | 22.1 (20.1, 24.5) | 30.7 (25.8, 37.0) | 40.6 (31.4, 43.4) |
| 30–39 | 296 | 16.7 (12.7, 19.8) | 20.3 (16.7, 24.8) | 29.1 (24.0, 32.0) | 38.6 (32.3, 43.7) | 49.9 (45.4, 55.4) | 64.1 (55.4, 85.1) | 86.0 (62.3, 120) | 414 | 8.27 (6.69, 9.31) | 9.90 (8.98, 10.9) | 13.5 (12.3, 14.7) | 18.3 (17.2, 19.4) | 23.7 (21.4, 25.6) | 30.9 (26.3, 37.9) | 38.6 (30.9, 44.3) |
| 40–49 | 261 | 17.0 (10.0, 21.2) | 20.3 (17.4, 23.3) | 27.5 (23.6, 31.3) | 37.9 (34.0, 42.2) | 51.8 (42.3, 62.9) | 72.9 (53.5, 102) | 96.5 (63.4, 164) | 474 | 8.57 (7.03, 9.47) | 10.2 (8.78, 11.0) | 13.5 (12.2, 15.1) | 17.7 (16.8, 19.2) | 24.9 (22.7, 26.4) | 31.8 (28.7, 42.0) | 44.6 (31.8, 64.1) |
| 50–59 | 227 | 17.6 (12.5, 20.8) | 19.9 (17.0, 23.8) | 28.7 (24.1, 33.7) | 41.5 (36.6, 45.0) | 51.4 (46.4, 60.1) | 71.9 (58.8, 85.9) | 85.9 (64.1, 124) | 414 | 7.07 (5.68, 8.67) | 8.70 (7.86, 10.1) | 12.9 (11.0, 14.6) | 18.3 (16.7, 20.0) | 25.8 (23.9, 28.2) | 34.6 (31.4, 36.9) | 40.9 (35.4, 48.7) |
| 60–69 | 303 | 17.0 (15.0, 18.9) | 19.4 (17.5, 22.3) | 25.9 (22.8, 29.2) | 35.3 (32.2, 38.1) | 49.4 (43.0, 57.3) | 73.0 (59.0, 87.5) | 92.0 (72.6, 105) | 399 | 8.34 (5.74, 9.87) | 9.58 (8.30, 11.8) | 13.4 (12.4, 14.2) | 18.1 (16.2, 20.1) | 25.6 (22.2, 28.3) | 33.5 (29.8, 40.8) | 44.3 (35.1, 53.5) |
| ≥70 | 306 | 19.0 (16.8, 21.9) | 23.4 (20.7, 26.9) | 30.2 (28.0, 31.2) | 37.7 (34.7, 40.4) | 49.4 (46.0, 54.4) | 69.0 (56.4, 75.2) | 77.4 (71.2, 114) | 446 | 8.75 (7.66, 10.1) | 10.7 (9.77, 11.9) | 14.5 (13.2, 15.5) | 19.1 (18.3, 20.3) | 26.8 (24.9, 28.6) | 36.0 (31.2, 40.5) | 41.9 (37.9, 53.4) |
| Race/Ethnicity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NHW | 788 | 19.2 (17.0, 21.8) | 23.3 (20.5, 25.5) | 30.4 (27.9, 32.5) | 40.2 (36.2, 43.7) | 51.3 (46.8, 57.7) | 69.0 (61.9, 77.4) | 86.4 (74.0, 98.4) | 1222 | 8.41 (7.48, 9.25) | 10.4 (9.47, 10.9) | 13.8 (13.3, 14.7) | 18.5 (18.0, 19.2) | 25.6 (24.6, 26.4) | 33.9 (31.2, 37.3) | 42.8 (39.2, 48.4) |
| NHB | 271 | 15.7 (13.3, 18.5) | 17.8 (15.0, 20.2) | 23.4 (20.0, 27.9) | 33.8 (30.2, 37.8) | 44.4 (39.3, 52.0) | 59.4 (52.8, 63.8) | 75.3 (61.5, 84.4) | 427 | 6.72 (6.05, 8.30) | 8.51 (6.72, 10.0) | 11.5 (10.8, 12.5) | 16.0 (15.3, 16.8) | 21.4 (19.5, 22.6) | 27.3 (24.7, 30.1) | 32.2 (27.4, 37.4) |
| MA | 463 | 16.7 (13.1, 18.8) | 20.2 (17.7, 22.3) | 25.7 (23.5, 29.1) | 35.1 (31.3, 38.8) | 46.8 (42.7, 53.7) | 66.7 (55.0, 88.4) | 88.9 (73.8, 109) | 498 | 9.06 (7.87, 10.7) | 10.9 (9.07, 12.3) | 14.1 (12.4, 15.8) | 19.2 (16.7, 21.8) | 26.1 (23.9, 29.3) | 37.1 (33.0, 40.6) | 46.1 (40.5, 54.2) |

1 Values are weighted concentrations, Fasting: no meals in the past 8 or more hours.
(95% CI) at selected percentiles; same *n* as in Table 2. MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White.

**Supplemental Table 8.** Percentile distribution of elaidic acid (mol/L) in fasted adults 20 y and older, NHANES 1999–2000 and 2009–2010.

|  |  |  |
| --- | --- | --- |
|  | **1999-2000** | **2009-2010** |
| Category | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** |
| All | 1646 | 14.4 (12.1, 16.6) | 17.6 (15.7, 19.4) | 23.7 (21.9, 25.4) | 32.4 (29.0, 36.0) | 45.1 (41.2, 49.1) | 60.7 (55.4, 69.1) | 80.8 (68.1, 90.3) | 2578 | 6.02 (5.63, 6.45) | 6.86 (6.46, 7.37) | 9.23 (8.78, 9.75) | 13.0 (12.3, 13.8) | 18.5 (17.7, 19.4) | 26.6 (24.8, 28.2) | 33.9 (32.1, 35.6) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | 787 | 13.2 (11.4, 16.3) | 17.0 (14.7, 18.6) | 21.8 (20.7, 23.7) | 30.7 (27.0, 35.1) | 44.6 (39.0, 50.7) | 63.1 (53.2, 78.9) | 82.9 (66.4, 97.3) | 1199 | 5.81 (5.48, 6.13) | 6.62 (6.19, 7.05) | 8.81 (8.38, 9.34) | 12.4 (11.6, 13.2) | 17.9 (16.9, 19.0) | 25.4 (23.2, 27.5) | 32.6 (28.6, 35.4) |
| Female | 859 | 14.6 (12.1, 18.1) | 18.7 (15.5, 21.2) | 25.6 (23.3, 27.5) | 33.7 (30.7, 37.5) | 45.3 (41.5, 49.4) | 60.4 (54.7, 68.5) | 77.3 (60.7, 90.7) | 1379 | 6.29 (5.84, 6.67) | 7.19 (6.61, 8.10) | 9.72 (8.92, 10.5) | 13.6 (12.5, 14.7) | 19.0 (18.0, 20.6) | 27.3 (25.2, 30.0) | 34.1 (32.6, 36.4) |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20–29 | 274 | 14.8 (13.1, 17.3) | 17.6 (15.2, 19.6) | 22.1 (20.1, 25.0) | 30.8 (27.6, 34.5) | 41.5 (38.1, 44.3) | 54.0 (46.1, 60.6) | 61.6 (54.0, 68.2) | 428 | 5.82 (4.93, 6.14) | 6.42 (5.88, 6.98) | 8.43 (7.64, 8.92) | 10.9 (10.1, 12.0) | 15.5 (14.2, 17.0) | 21.8 (18.0, 25.6) | 26.8 (23.0, 32.6) |
| 30–39 | 291 | 12.4 (11.4, 14.5) | 15.7 (12.2, 20.9) | 22.9 (19.4, 25.7) | 30.6 (25.9, 36.1) | 43.7 (37.5, 49.4) | 58.3 (51.9, 68.1) | 81.3 (56.2, 94.6) | 415 | 5.96 (5.51, 6.63) | 6.91 (5.96, 8.07) | 9.3 (8.47, 9.95) | 12.9 (11.6, 14.0) | 17.7 (15.6, 19.0) | 23.6 (20.6, 24.6) | 26.9 (24.0, 33.9) |
| 40–49 | 256 | 13.4 (9.70, 18.1) | 17.6 (12.4, 19.8) | 22.9 (19.7, 25.2) | 31.3 (25.5, 38.1) | 44.1 (35.4, 52.3) | 64.5 (44.6, 127) | 101 (53.0, 153) | 475 | 6.02 (4.88, 6.86) | 6.86 (6.21, 7.70) | 9.44 (8.67, 10.0) | 12.8 (11.8, 14.3) | 18.5 (16.9, 20.7) | 25.9 (22.1, 31.7) | 33.6 (26.2, 41.9) |
| 50–59 | 223 | 16.0 (11.4, 19.0) | 18.1 (16.0, 22.8) | 27.6 (23.1, 30.5) | 37.3 (32.8, 41.3) | 52.6 (45.0, 56.0) | 69.7 (55.6, 90.3) | 90.7 (58.5, 164) | 415 | 6.17 (5.55, 6.96) | 6.96 (6.22, 7.94) | 9.57 (8.75, 10.7) | 14.0 (12.1, 15.3) | 19.6 (16.4, 23.1) | 28.1 (25.1, 31.9) | 34.1 (30.7, 40.5) |
| 60–69 | 299 | 14.4 (12.6, 17.6) | 17.8 (14.6, 19.2) | 24.8 (20.8, 27.1) | 33.3 (28.4, 38.2) | 45.5 (40.6, 53.2) | 65.0 (54.0, 81.9) | 82.9 (64.4, 93.2) | 399 | 5.83 (5.45, 6.64) | 6.64 (5.99, 7.46) | 9.10 (8.07, 10.7) | 13.7 (12.7, 15.1) | 19.6 (18.1, 22.4) | 30.7 (25.5, 35.5) | 41.1 (29.5, 55.2) |
| ≥70 | 303 | 16.9 (14.7, 18.2) | 18.8 (18.1, 21.6) | 26.3 (23.7, 28.5) | 34.7 (30.9, 38.9) | 48.3 (44.4, 54.5) | 62.7 (58.5, 69.4) | 75.8 (61.8, 81.8) | 446 | 7.23 (6.19, 8.25) | 8.70 (7.37, 9.70) | 11.4 (10.5, 12.4) | 16.3 (15.0, 17.2) | 23.8 (22.4, 25.0) | 33.8 (29.0, 36.5) | 38.3 (36.5, 42.1) |
| Race/Ethnicity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NHW | 785 | 15.9 (12.1, 18.9) | 19.3 (16.5, 21.7) | 25.5 (23.0, 27.8) | 34.9 (30.8, 38.4) | 47.3 (41.5, 53.0) | 63.1 (55.9, 75.8) | 82.9 (68.1, 96.4) | 1224 | 6.11 (5.69, 6.63) | 7.00 (6.45, 7.88) | 9.61 (9.07, 10.3) | 13.6 (12.8, 14.5) | 19.4 (18.4, 20.6) | 27.3 (26.0, 29.6) | 35.0 (33.1, 37.2) |
| NHB | 262 | 14.2 (12.5, 15.4) | 16.0 (14.3, 17.5) | 20.7 (19.1, 22.8) | 28.5 (26.7, 30.1) | 38.0 (33.0, 41.6) | 54.4 (41.8, 59.7) | 60.1 (49.1, 70.5) | 427 | 5.88 (4.34, 6.69) | 6.80 (6.14, 7.49) | 8.67 (7.77, 9.59) | 11.8 (10.6, 12.8) | 15.8 (14.6, 17.0) | 21.4 (17.3, 28.8) | 28.1 (21.8, 32.2) |
| MA | 464 | 13.9 (12.1, 15.9) | 16.4 (13.8, 19.4) | 21.4 (19.0, 24.6) | 31.2 (27.9, 34.2) | 43.4 (38.6, 48.8) | 63.1 (48.8, 81.3) | 81.3 (67.3, 101) | 498 | 7.21 (6.17, 8.19) | 8.15 (7.36, 9.31) | 10.7 (9.09, 12.6) | 15.3 (13.4, 17.0) | 20.4 (18.2, 23.9) | 28.6 (25.2, 33.2) | 35.6 (31.4, 41.6) |

1 Values are weighted concentrations, Fasting: no meals in the past 8 or more hours.
(95% CI) at selected percentiles; same *n* as in Table 2. MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White.

**Supplemental Table 9.** Percentile distribution of linoelaidic acid (mol/L) in fasted adults 20 y and older, NHANES 1999–2000 and 2009–2010.

|  |  |  |
| --- | --- | --- |
|  | **1999-2000** | **2009-2010** |
| Category | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** | ***n*** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** |
| All | 1650 | 1.28 (1.17, 1.36) | 1.50 (1.35, 1.62) | 2.03 (1.82, 2.19) | 2.72 (2.50, 3.00) | 3.81 (3.49, 4.16) | 5.20 (4.62, 5.75) | 6.21 (5.58, 6.96) | 2467 | 0.815 (0.778, 0.847) | 0.924 (0.896, 0.951) | 1.17 (1.12, 1.21) | 1.54 (1.47, 1.62) | 2.09 (2.00, 2.18) | 2.76 (2.59, 3.00) | 3.35 (3.09, 3.64) |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | 781 | 1.30 (1.17, 1.36) | 1.52 (1.35, 1.65) | 1.98 (1.76, 2.20) | 2.62 (2.36, 2.87) | 3.64 (3.28, 3.95) | 5.17 (4.32, 6.14) | 6.24 (5.56, 7.72) | 1146 | 0.801 (0.763, 0.868) | 0.914 (0.881, 0.947) | 1.16 (1.09, 1.20) | 1.51 (1.43, 1.60) | 2.05 (1.95, 2.17) | 2.70 (2.52, 2.87) | 3.13 (2.87, 3.63) |
| Female | 869 | 1.26 (1.10, 1.40) | 1.48 (1.34, 1.61) | 2.03 (1.86, 2.23) | 2.81 (2.56, 3.16) | 3.99 (3.58, 4.34) | 5.22 (4.74, 5.73) | 6.01 (5.34, 6.96) | 1321 | 0.821 (0.769, 0.868) | 0.943 (0.881, 0.986) | 1.18 (1.12, 1.25) | 1.57 (1.46, 1.71) | 2.14 (1.98, 2.28) | 2.87 (2.63, 3.17) | 3.45 (3.14, 3.82) |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20–29 | 280 | 1.27 (1.10, 1.35) | 1.39 (1.30, 1.52) | 1.80 (1.65, 1.98) | 2.53 (2.16, 2.81) | 3.58 (2.91, 4.33) | 4.96 (3.88, 5.75) | 5.75 (4.41, 6.21) | 409 | 0.732 (0.679, 0.792) | 0.863 (0.789, 0.930) | 1.07 (1.01, 1.12) | 1.38 (1.28, 1.46) | 1.84 (1.71, 2.03) | 2.62 (2.26, 2.82) | 3.05 (2.76, 3.63) |
| 30–39 | 291 | 1.18 (0.945, 1.44) | 1.39 (1.17, 1.64) | 1.87 (1.62, 2.22) | 2.56 (2.31, 2.78) | 3.74 (3.17, 3.99) | 4.93 (4.17, 5.52) | 5.62 (5.13, 6.55) | 397 | 0.808 (0.729, 0.907) | 0.907 (0.831, 1.03) | 1.18 (1.08, 1.26) | 1.49 (1.38, 1.64) | 1.97 (1.85, 2.11) | 2.34 (2.21, 2.66) | 2.79 (2.45, 3.41) |
| 40–49 | 258 | 1.28 (1.12, 1.41) | 1.49 (1.28, 1.75) | 2.03 (1.68, 2.27) | 2.61 (2.35, 2.79) | 3.51 (2.79, 4.24) | 4.98 (3.74, 7.17) | 7.02 (4.63, 9.54) | 449 | 0.828 (0.776, 0.881) | 0.912 (0.854, 0.974) | 1.17 (1.11, 1.22) | 1.57 (1.42, 1.72) | 2.18 (2.00, 2.35) | 2.70 (2.47, 3.13) | 3.72 (2.92, 4.19) |
| 50–59 | 223 | 1.48 (1.08, 1.87) | 1.83 (1.42, 2.27) | 2.51 (2.15, 2.88) | 3.34 (2.95, 3.70) | 4.38 (3.92, 4.87) | 5.79 (4.84, 6.23) | 6.24 (5.84, 7.06) | 402 | 0.869 (0.670, 0.952) | 0.952 (0.877, 1.06) | 1.25 (1.14, 1.35) | 1.62 (1.49, 1.87) | 2.18 (1.98, 2.51) | 3.03 (2.62, 3.44) | 3.50 (3.03, 3.92) |
| 60–69 | 295 | 1.42 (1.19, 1.50) | 1.54 (1.42, 1.84) | 2.10 (1.86, 2.28) | 2.95 (2.41, 3.54) | 4.22 (3.69, 4.62) | 5.41 (4.61, 6.52) | 6.52 (5.08, 7.92) | 380 | 0.861 (0.749, 0.964) | 0.978 (0.879, 1.04) | 1.19 (1.09, 1.29) | 1.56 (1.38, 1.82) | 2.16 (1.97, 2.46) | 2.75 (2.50, 3.38) | 3.74 (2.68, 5.14) |
| ≥70 | 303 | 1.33 (1.15, 1.61) | 1.64 (1.36, 1.73) | 2.14 (1.97, 2.30) | 2.71 (2.53, 3.02) | 3.64 (3.38, 4.18) | 5.18 (4.52, 5.74) | 6.01 (5.10, 7.36) | 430 | 0.848 (0.789, 0.907) | 0.947 (0.894, 1.04) | 1.25 (1.16, 1.39) | 1.66 (1.57, 1.78) | 2.20 (2.03, 2.48) | 3.14 (2.70, 3.42) | 3.53 (3.25, 4.18) |
| Race/Ethnicity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NHW | 767 | 1.35 (1.18, 1.55) | 1.61 (1.39, 1.85) | 2.18 (1.87, 2.42) | 2.95 (2.66, 3.36) | 4.03 (3.66, 4.61) | 5.49 (4.76, 6.21) | 6.27 (5.79, 7.59) | 1168 | 0.869 (0.792, 0.903) | 0.960 (0.907, 1.04) | 1.21 (1.16, 1.29) | 1.60 (1.51, 1.71) | 2.17 (2.06, 2.27) | 2.87 (2.68, 3.14) | 3.55 (3.14, 3.91) |
| NHB | 266 | 1.27 (1.13, 1.35) | 1.36 (1.29, 1.51) | 1.72 (1.61, 1.80) | 2.16 (2.06, 2.32) | 2.74 (2.57, 3.00) | 3.41 (3.07, 3.97) | 4.23 (3.41, 5.66) | 405 | 0.780 (0.704, 0.839) | 0.848 (0.789, 0.969) | 1.06 (0.994, 1.15) | 1.39 (1.24, 1.49) | 1.86 (1.64, 2.03) | 2.29 (2.12, 2.58) | 2.69 (2.45, 3.01) |
| MA | 462 | 1.10 (0.948, 1.39) | 1.33 (1.10, 1.60) | 1.92 (1.50, 2.29) | 2.64 (2.32, 2.92) | 3.48 (3.08, 3.97) | 4.73 (3.97, 5.89) | 5.93 (4.63, 7.39) | 489 | 0.845 (0.729, 0.958) | 0.979 (0.868, 1.05) | 1.24 (1.11, 1.40) | 1.66 (1.53, 1.81) | 2.17 (2.03, 2.40) | 2.88 (2.54, 3.33) | 3.36 (3.00, 3.84) |

1 Values are weighted concentrations, Fasting: no meals in the past 8 or more hours.
(95% CI) at selected percentiles; same *n* as in Table 2. MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White.

**Supplemental Table 10:** P-values for the independent variables in the models used to estimate the covariate-adjusted parameters1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Independent** **Variable** | **Palmitelaidic acid** | **trans-Vaccenic acid** | **Elaidic acid** | **Linoelaidic acid** | **SumTFA** |
| Survey | NA2 | NA | NA | NA | NA |
| Sex | 0.463 | 0.153 | 0.03 | 0.02 | 0.583 |
| Race/Ethnicity | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Alcohol Consumption | < 0.0001 | < 0.0001 | < 0.0001 | 0.263 | < 0.0001 |
| Lipid Altering Medications | < 0.0001 | 0.002 | 0.02 | 0.703 | 0.004 |
| Physical Activity | 0.873 | 0.873 | 0.006 | 0.073 | 0.193 |
| Education | NA | NA | NA | NA | NA |
| Body Mass Index (BMI) | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Diabetes | 0.01 | 0.001 | 0.0001 | < 0.0001 | 0.0004 |
| Age | NA | NA | NA | NA | NA |
| Age squared | 0.04 | 0.463 | 0.413 | 0.01 | 0.583 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Education x Age | 0.001 | 0.003 | 0.04 | 0.103 | 0.006 |
| Survey x Age | 0.053 | 0.03 | 0.003 | 0.723 | 0.02 |

1 SumTFA, sum of the 4 trans-fatty acids.Model included survey year, sex, race/ethnicity, education, alcohol use, lipid-altering drugs, physical activity, education, BMI, age, age squared, and education/age and survey/age interactions. Fasting: no meals in the past 8 or more hours. Due to missing values for dependent or some independent variables for some subjects, the sample sizes for the various models were: palmitelaidic acid: 3785; trans-vaccenic acid: 3784; elaidic acid: 3760; linoelaidic acid: 3669; and sumTFA: 3730.
2 NA: Main effect not tested because this variable is involved in an interaction later in the table.

3 Not statistically significant based on a False Discovery Rate (FDR) controlling procedure with q\* = 0.05.

**Supplemental Table 11.** P-values associated with comparisons of covariate-adjusted weighted geometric means between different population subgroups1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameters** | **Palmitelaidic acid** | **trans-Vaccenic acid** | **Elaidic acid** | **Linoelaidic acid** | **SumTFA** |
| Male vs Female | 0.465 | 0.155 | 0.03 | 0.02 | 0.585 |
| NHW vs NHB | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| NHW vs MA | 0.007 | 0.075 | 0.215 | 0.01 | 0.085 |
| NHB vs MA | < 0.0001 | 0.002 | 0.00075 | 0.0004 | 0.0004 |
| Non-Drinker  vs <X Drink/day 2 | 0.006 | 0.005 | 0.0002 | 0.125 | 0.004 |
| Non-Drinker vs ≥X Drink/day 2 | < 0.0001 | < 0.0001 | < 0.0001 | 0.175 | < 0.0001 |
| <X Drink/day 2 vs ≥X Drink/day 2 | < 0.0001 | < 0.0001 | < 0.0001 | 0.825 | < 0.0001 |
| Lipid-Altering Medicine vs None | < 0.0001 | 0.002 | 0.02 | 0.705 | 0.004 |
| Physically Active vs Sedentary | 0.875 | 0.875 | 0.006 | 0.075 | 0.195 |
| Pre- or Diabetic vs non-Diabetic | 0.01 | 0.001 | < 0.0001 | < 0.0001 | 0.0004 |
| Normal or Underweight vs Overweight | < 0.0001 | 0.0003 | < 0.0001 | < 0.0001 | < 0.0001 |
| Normal or Underweight vs Obese | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Overweight vs Obese | < 0.0001 | 0.065 | 0.0008 | 0.01 | 0.008 |
| Education: ≤12 yrs vs >12 yrs 3 | 0.865 | 0.01 | 0.0001 | 0.002 | 0.001 |
| Age: 20 yrs vs 50 yrs (1999-2000) 4 | 0.155 | 0.345 | 0.975 | 0.165 | 0.695 |
| Age: 20 yrs vs 50 yrs (2009-2010) 4 | 0.595 | 0.265 | 0.006 | 0.03 | 0.065 |
| Age: 20 yrs vs 80 yrs (1999-2000) 4 | 0.875 | 0.009 | 0.295 | 0.705 | 0.135 |
| Age: 20 yrs vs 80 yrs (2009-2010) 4 | 0.004 | 0.565 | 0.005 | 0.925 | 0.105 |
| Age: 50 yrs vs 80 yrs (1999-2000) 4 | 0.105 | 0.035 | 0.135 | 0.007 | 0.155 |
| Age: 50 yrs vs 80 yrs (2009-2010) 4 | 0.003 | 0.935 | 0.185 | 0.075 | 0.525 |

1 MA, Mexican-American; NHB, non-Hispanic Black; NHW, non-Hispanic White; SumTFA, sum of the 4 trans-fatty acids. Model included survey year, sex, race/ethnicity, education, alcohol use, lipid-altering drugs, physical activity, body mass index, diabetic status, age, age2, and education/age and survey/age interactions. Fasting: no meals in the past 8 or more hours.
2 For males X=2 and for females X=1.

3 The statistical significance associated with this comparison is applicable to subjects at the median age (46 years) of the study population.

4 The statistical significance values associated with the age comparisons are applicable to the educational distribution of subjects in the study population.

5 Not statistically significant based on a False Discovery Rate (FDR) controlling procedure with q\* = 0.05.